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**REMARKS**

Claims 1-46 are pending in the application. Claims 1, 24, and 43 are currently amended, claims 44-46 are new. Support for the amendments and the new claims may be found in the Specification on page 10 at lines 6-23 and at other places in the Specification.

**Claim rejections—35 U.S.C. §112**

Claims 1-43 stand rejected as being indefinite for failing to point out what is considered to be "substantially equal." Applicant respectfully traverses the rejection. "Means" language has been inserted to confirm that all claims shall be read in the context of the specification. The text from line 12 to line 16 on page 15 and Table 1, together with page 15 of the original Specification, provide specific examples which demonstrate to one of ordinary skill in the art that "substantially equal statistical fairness" in the context of a multi-candidate race means, at a minimum, that each candidate has an equal or near equal chance of being listed in the first place of any ballot. Applicant thus respectfully requests that Examiner withdraw the rejection of Claims 1-43 based on 35 U.S.C. §112 second paragraph.

**Claim rejections—35 U.S.C. §103(a)**

Claims 1-43 stand rejected under 35 U.S.C. §103(a) over United States Patent Application Publication (U.S. 2002/0107724) by Openshaw II et al., in view of Miller (article, *The impact of candidate name order on election outcomes*). The Examiner uses Openshaw II et al. to show an electronic voting system that performs ballot rotation. Miller is said to show ballot rotation in precincts using electronic voting systems, where ballot images are produced, and wherein the rotation produces substantially equal statistical fairness. Applicant respectfully traverses the rejection.

Independent Claims 1, 24 and 43 distinguish the cited art by reciting details on how the ballot rotation engine operates to achieve substantial fairness by ballot rotation at different levels. On page 4 of the instant Office Action, Examiner states that "Openshaw II et al. and Miller et al. discuss changing the order of candidate names in ballots in order to ensure fairness." Applicant respectfully disagrees. Paragraphs 19-20 of Openshaw II et al. mention the use of a pre-

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approved random electronic ballot; however, this ballot is disseminated only to telephone voting stations that may be added in response to increased numbers of voters. The randomization occurs only for the telephone ballots, not for the precinct at large. This occurs because Oppenshaw II randomizes the ballots for a different reason than to achieve statistical fairness. Oppenshaw II randomizes the ballots only to prevent an observer from ascertaining what vote is being cast by the voter. Accordingly, Oppenshaw II does not achieve fairness at the level of a voting precinct, a group of precincts supported at a polling place, or an entire election jurisdiction.

The use of Miller et al. in combination with Oppenshaw II likewise fails to teach or suggest what is claimed. Miller et al. merely confirms whether voting results reflect a statistical incidence of name-order effects. There is no teaching or suggestion in Miller et al. that ballot rotation may be performed on-demand by electronic devices during the course of an election with control at any level to facilitate statistical fairness. Appendix B of Miller et al. merely describes ballot rotation procedures where ballots were rotated for various precincts within a country *where each precinct received a single type of ballot*. This does not promote substantially equal statistical fairness because the respective precincts have different numbers of voters. In contrast to what is claimed, the ballot were only rotated on a precinct basis without regard to the number of voters.

Miller et al. does not cure the defect of Oppenshaw where, in fact, Oppenshaw teaches away from what is claimed and addresses a different purpose for the rotation. Neither reference is cognizant that fairness may be achieved by coordinating the ballot rotation by use of a ballot rotation engine.

The Examiner repeatedly states that Miller et al. discloses rotating the order of candidates in ballots in order to ensure fairness. Applicant respectfully disagrees. Miller et al. do not teach rotation of the ballot so that each candidate is first an equal number of times. Miller et al. merely shows rotating the ballots in respective ways for each precinct on the basis of each precinct being assigned a different number that is allocated a unique ballot style. That system cannot achieve fairness as measured by each candidate being presented first in an equal number of voting instances, because different numbers of people inherently vote at the different precincts. Accordingly, the Miller system does not achieve substantial fairness as is now claimed.

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In fact, Miller teaches away from what is claimed by implementing a schema at the precinct level without regard to statistical fairness. Furthermore, the discussion on page 317 of Miller et al. observes a further unresolved problem of periodicity in sequential rotation assignments of the Ohio type, where this problem is also overcome by what is claimed. Miller et al. did not solve that problem. Therefore, both references cited by Examiner, Openshaw and Miller, either alone or in combination, fail to teach or suggest the solution that is claimed by Applicant.

Claims 2-23, 25-42 are defendant claims that necessarily incorporate the limitations of the base claims from which they depend. Although they have patentable merit of their own, the defendant claims are at least patentable for the reasons discussed above. In particular, New claims 44-46 specifically address implementing the statistically equal fairness of ballot rotation at the precinct level, where both Oppenshaw II and Miller et al. teach away from rotation at the level of an entire precinct.

Based upon the foregoing discussion, Applicant's attorney respectfully solicits a notice of allowance and earnestly requests the Examiner to telephone if a conversation would expedite prosecution. A fee of \$75 is submitted as payment for new claims 44-46, a fee of \$395 is submitted for the Request for Continued Examination, and a fee of \$60 is submitted as payment for a one-month extension of time. Although no additional fees are believed to be due, the Office is authorized to charge any additionally required fees to deposit account 12-0600.

Respectfully submitted,

By:



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